

### **REMARKS/ARGUMENTS**

Applicant thanks the Office for examining this patent application. Claims 1-36 are pending. Claims 2-36 were amended. No claims have been canceled, added or withdrawn. Withdrawal of the outstanding rejections to the pending claims is respectfully requested in view of the following remarks.

#### **Amendments to the Claims**

The preambles of independent **claims 2-9, 11-18, 20-27, and 29-36** have been amended to more particularly show antecedent basis on their respective base claim or an intervening claim. For example, the preamble of claim 2 has been changed from "[a] method **as recited in claim [...]**" to "[t]he method of claim [...]" (emphasis added). Analogously, the preamble of claim 11 has been changed from "[a] computer-readable medium as recited in claim [...]" to "[t]he computer-readable medium of claim [...]" Thus, these amendments do not introduce subject matter that the Office has not already had the opportunity to examine.

#### **Amendments to the Specification**

**Paragraphs [0018] and [0036]** have been amended to correct spelling informalities. **Paragraph [0032]** has been amended to remove the incorrect reference number of "908" and indicate that "encoded video data" references, for example, "encoded video data 302" of Fig. 3. **Paragraphs [0040] and [0042]** have been amended to change the reference number associated with "system memory 610" to "system memory 630" to properly correspond with the reference number of system memory 630 shown in Fig. 6. **Paragraph [0051]** has been

amended to show that the cited references need not be incorporated by reference as the references merely refer to prior art materials.

### **Information Disclosure Statement**

Copies of references cited in paragraphs [0023], [0024], and [0051] of the specification are also cited in the IDS filed in association with this response.

### **Objections to the Drawings**

A replacement sheet for Fig 2 accompanies this response. The replacement sheet changes the reference number for the transcoder from "224" to "222," as described in the specification in paragraph [0019].

Regarding reference number "908" in paragraph [0032], this paragraph has been amended to properly indicate that the reference number, for example, is "302," as shown in figure 3.

Withdrawal of the objections to the drawings is requested.

### **Objections to the Specification**

Spelling informalities have been corrected in replacement paragraphs [0018] and [0036]. Withdrawal of the objections to the specification is requested.

### **Non-Statutory Double Patenting Rejection**

Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 22, 23, 25, 26, 28, 29, 31, 32, 34, and 35 stand provisionally rejected on the grounds of non-statutory obviousness type double patenting has been unpatentable for claims 1, 2, 10, 13,

and 21 of co-pending application no. 10/725,762. A terminal disclaimer in compliance with 37 CFR §1.321(c) accompanies this response to overcome this non-statutory double patenting rejection. Withdrawal of the double patenting rejection is requested.

### **35 USC §101 Rejection**

Claims 10-36 are rejected under 35 USC §101 as being directed to non-statutory subject matter. Independent claims 10 and 19 and corresponding ones of their dependent claims 11-18 and 20-27 have been amended to comply with 35 USC §101. Claim 28 has been amended to indicate that the processing means are in a tangible computer-readable medium (e.g., please see the specification paragraph [0040], and Fig. 6, system memory 630). Thus, claim 28 and its corresponding dependent claims 29-36 also pertain to statutory subject matter.

Withdrawal of the 35 USC §101 rejection is requested.

### **35 USC §112, Second Paragraph, Rejections**

Claim 29 stands rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Claim 29 has been amended to properly indicate "means", rather than "the computer-executable instructions." Withdrawal of the 35 USC §112, second paragraph, rejection is requested.

**35 USC §103(a) Rejections**

Claims 1, 2, 4, 5, 7-11, 13, 14, 16-20, 22, 23, 25-29, 31, 32, and 34-36 stand rejected under 35 USC §103(a) as being unpatentable over US patent serial number 6,014,693 (“Ito”) in view of US patent 5,953,506 (“Kalra”). However, the M.P.E.P. states that, to support the rejection of a claim under 35 U.S.C. § 103(a), each feature of each rejected claim must be taught or suggested by the applied references, and that each of the words describing the feature must be taken into account.

To establish *prima facie* obviousness of a claimed invention, **all** the claim limitations **must** be taught or suggested by the prior art. ... **All** words in a claim **must** be considered in judging the patentability of that claim against the prior art.

(M.P.E.P. § 2143.03, emphasis added). Each of the independent claims 1, 10, 19, and 28 include at least one feature not taught or fairly suggested by *Ito*, alone or in combination with *Kalra*, and is therefore patentable for at least this reason.

For example, **claim 1** recites in part “decoding an enhancement layer bitstream **from encoded video data**, the encoded video data having a base layer and one or more enhancement layers, the video data **having been encoded according to a high HQRB** (high quality reference bit-rate),” (emphasis added). In addressing these features, the action concedes at page 8 that *Ito* does not disclose that “video is divided into a base layer and enhancement layers.” Applicant agrees. Applicant further submits that not only does *Ito* not disclose such a teaching, *Ito* is completely silent on any teaching, or fair suggestion, of doing anything with “an enhancement layer bitstream from encoded video data [that was] encoded according to a high HQRB,” as claim 1 requires.

Instead, *Ito* discloses that a video server delivers MPEG compressed video data **12** to a client at an adjustable bit rate according to information provided by a

video index **13** (col. 5, lines 17-39). *Ito* explicitly describes at col. 5, lines 51-62, that compressed MPEG video data **12** is "reconstructed from any one of three kinds of pictures, i.e., an I [intra-coded] picture, a P [predicted] picture, and a B [bi-directionally predicted] picture" (emphasis added). As shown in Fig. 2, and as described in the col. 5, lines 24-39, the video index **13**, which resides on the server, describes parts of the video data stream so that the server can adjust the transfer bit rate as the video data **12** is delivered. To this end, a video data assembler **14** uses the video data index **13** to locate and extract data from the video data **12** to adjust the bit rate. Fig. 3 shows a detailed "table of the new index" (col. 4, lines 52-53). Col. 5, line 51 through col. 6, line 15, explicitly describes that the video data index identifies, "for each of the plurality of bit rate settings", "the types, numbers, and positions on a time axis of data which are to be selected from the compressed original video data" by a server component for transfer to a client. As described in col. 6, lines 43 through col. 7, line 11, as video data **12** is being transferred to a client, and as data transfer rates  $T_r$  change, the video data assembler **14** (i.e., the server) identifies appropriate transfer bit rate(s) to use by referring to the video data index **13**.

In view of the above, *Ito*'s disclosures that (1) MPEG video data is reconstructed using intra-coded, predicted, and bi-directionally predicted pictures; and (2) a server component utilizes a video data index to identify appropriate transmission bit rates as video data is delivered and transmission bit rates change, clearly do not teach or suggest the above recited features of claim 1. Applicant submits that it is clear from these disclosures that the video data index of *Ito* is not an "enhancement layer bitstream" and it is not used to generate such a bitstream, but rather the video data index of *Ito* is a data structure utilized by a server to

determine appropriate transmission bit rates and corresponding portions of video data for transmission according to measured changes in data transfer rates  $T_r$ . *Ito* does not even include the words "enhancement", "enhancement layers", "enhancement layer bitstream", or "base layer." Since all words in a claim must be considered in judging the patentability of the claim against the prior art, it is clear that *Ito* does not describe, teach, or fairly suggest "decoding an enhancement layer bitstream from encoded video data, the encoded video data having a base layer and one or more enhancement layers", as claim 1 requires.

Since any teaching or fair suggestion of "an enhancement layer bitstream from encoded video data [that was] encoded according to a high HQRB," as claim 1 requires, is missing from *Ito*, *Ito* cannot teach or suggest any other feature of claim 1 that recites one of these missing features.

For instance, *Ito* does not teach, or fairly suggest, the following additional features of claim 1:

- determining data throughput characteristics of a network coupled to a client computing device;
- calculating a new HQRB based on the data throughput characteristics; and
- **encoding the enhancement layer bitstream** based on the new HQRB to generate **a transcoded enhancement layer** for streaming to the client computing device.

Although *Ito* describes measuring data transfer rates to determine new bit rates, and using a video data index to reassemble video data for transfer at the new bit rates (e.g., col. 7, lines 51-67, and col. 8, lines 25-33), this does not cure the already described deficiencies of *Ito*. For the reasons already discussed above, *Ito*

is completely silent with respect to any teaching or suggestion of "decoding an enhancement layer bitstream from encoded video data." Thus, *Ito* clearly cannot teach "encoding the enhancement layer bitstream," created from "video data [...] encoded according to a high HQRB (high quality reference bit-rate)" to "generate a transcoded enhancement layer," as claim 1 requires.

Moreover, the Action asserts that the claimed feature of "the base layer is not decoded for streaming to the client computing device" is taught by *Ito* at column 6, line 43-56. Applicant disagrees. Specifically, the Action declares that the cited portion of *Ito* teaches that not every frame is decoded. However, Applicant submits that this is not what the cited portion teaches. Instead, the cited disclosure pertains to description indicating that video data delivery occurs while data is being created, rather than waiting and delivering the video data after all the video data has been created. Plainly, this does not teach or suggest that "encoded video data having a base layer and one or more enhancement layers" and "the base layer is not decoded for streaming to the client computing device," where the decoded enhancement layer is used "to generate a transcoded enhancement layer," as claim 1 requires. Since a determination of obviousness must consider **each and every** element of the claimed features **as a whole**, and all words in a claim **must** be considered, it is clear that *Ito* does not teach, or fairly suggest, these claimed features.

*Ito* is combined with *Kalra* for transmission of scalable multimedia data. The Action concedes that *Kalra* does not teach "the base layer is not decoded for streaming to the client computing device," as claim 1 requires. Applicant agrees (please see *Kalra* at column 7, lines 42-46). For the reasons already discussed above, *Ito* does not teach or suggested these claimed features either. Thus, the

combination of *Kalra* with the primary reference *Ito* does not cure the already discussed teaching deficiencies of *Ito* regarding claim 1. Accordingly, and at least for these reasons, the features of claim 1 are patentably distinguished over *Ito* in view of *Kalra*.

**Independent claims 10, 19, and 28** include salient features similar to those of claim 1, and are allowable over the cited combination of references for the same or similar reasons as claim 1. **Dependent claims 2, 4, 5, 7-9, 11, 13, 14, 16-18, 20, 22, 23, 25-27, 29, 31, 32, and 34-36** depend from one of these allowable base claims. Thus, these dependent claims are allowable over the cited combination of references at least for reasons based on their respective dependency on an allowable base claim.

Withdrawal of the 35 USC §103(a) rejection of claims 1, 2, 4, 5, 7-11, 13, 14, 16-20, 22, 23, 25-29, 31, 32, and 34-36 is requested.

Claims 3, 6, 12, 15, 21, 24, 30, and 33 stand rejected under 35 USC §103(a) as being unpatentable over *Ito* in view of *Kalra* and further interview of "A Framework for Efficient Progressive Fine Granularity Scalable Video Coding" (2001) ("*Wu*"). Applicant disagrees.

Regarding **claims 3, 12, 21, and 30**, the Action combines *Ito* and *Kalra* with *Wu* for the teaching of progressive fine granularity scalable video coding techniques. However, assuming *arguendo* that *Wu* provides such an additional teaching, this additional teaching does not cure the already described deficiencies of *Ito* in view of *Kalra* with respect to the base claims from which claims 3, 12, 21, and 30 depend. Thus, the cited combination of references does not teach or



suggest the features of claims 3, 12, 21, and 30, at least for reasons based on their respective dependency on an allowable base claim.

**Claims 6, 15, 24, and 33** recite in part "determining motion vector(s) from the base layer **without** decoding an entirety of a bitstream corresponding to the base-layer," (emphasis added). In addressing these claimed features, the Action combines *Ito* and *Kalra* with *Wu* for the teaching of predicting high-level enhancement layer frames from previous enhancement layers "without always relying on the base layer (figure 1)." Applicant submits that not relying on the base layer for something does not teach, or fairly suggest, "determining motion vector(s) from the base layer."

Additionally, the Action also points to the teachings that motion estimation "does not depend on decoded base layer, but instead on raw, unencoded video," and "motion compensation and a high-level answer layer is **dependent on** a reconstructed **frame from the enhancement layer**" (emphasis added). Again, Applicant submits that not depending on the base layer, but rather depending on frames from an enhancement layer does not teach, or fairly suggest, "determining motion vector(s) from the base layer." Clearly, these teachings of encoding a layered video stream according to PFGS by determining motion compensation **for a high-level enhancement layer from previous enhancement layers** is completely silent with respect to any teaching or suggestion of "determining motion vector(s) from the base layer **without decoding** an entirety of a bitstream corresponding to the **base-layer**" (emphasis added) as claims 6, 15, 24, and 33 require.

In view of the above, and for these reasons alone, claims 6, 15, 24 and 33 are not obvious over the cited combination of references. Moreover, these

additional teachings of *Wu* do not cure the already discussed efficiencies of *Ito* and *Kalra* with respect to the base claims upon which these rejected dependent claims depend. Therefore, independent of the additional features of these rejected base claims already shown to be patentably distinguished over the combination of references, claims 6, 15, 24, and 33 are also allowable over the cited combination based on their respective dependency on allowable base claims.

Withdrawal of the 35 USC §103(a) rejection of claims 3, 6, 12, 15, 21, 24, 30, and 33 is requested.

### Conclusion

Pending claims 1-36 are in condition for allowance and action to that end is respectfully requested. Should any issue remain that prevents allowance of the application, the Office is encouraged to contact the undersigned to discuss this case prior to issuing any subsequent Action.

Respectfully Submitted,

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By: / Brian G. Hart Reg. No. 44,421 /  
Brian G. Hart  
Reg. No. 44,421  
(303) 526-1070